

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A method of publishing signature log entries having information about signatures generated by a user's side apparatus, wherein the method is implemented on a publication agency's side apparatus, the method comprising:

receiving and ~~publishing the user's signature log entries generated by the user's side apparatus~~ and publishing the user's signature log entries as a user's signature log entry publishing step;

notifying the users of having published the user's signature log entries ~~as a user's signature log entry publication notifying step;~~

when the user's signature log entries have been received, generating a publication agency's signature log entry by using the received user's signature log entries, and updating a signature log having the publication agency's signature log entry previously produced and registered in past times as a signature log updating step;

publishing the generated publication agency's signature log entry ~~as a publication agency's signature log entry publication step;~~ and

notifying the users of having published the publication agency's signature log entry; ~~as a publication agency's signature log entry publication notifying step;~~

wherein said step of updating the signature log updating step further comprises:

when the user's signature log entries have been received, generating the publication agency's signature log entry based on the basis of the received user's signature log entries and a plurality of other signature log entries, and recording it the publication agency's signature log entry in a signature log file as a signature log entry generating step; and

when the user's signature log entries have been received, recording information of the users and information of the received user's signature log entries in a user information file as a user information file updating step,

wherein said user information file includes signature numbers and a type indication, which and

wherein the type indication indicates that said user signature log entries have been produced either at the time of transmission, at the time of reception, or at the time of publication, respectively,

wherein said step of notifying the users of having published the user's signature log entries further comprises:

generating a publication notice of the user's signature log entries, so as to notify the users on the user's side apparatus of having published;

generating a signature from the generated user's signature log entry publication notice and previous signature log entries of the signature log, and adding the signature to the publication notice;

when the signature has been generated, recording the generated signature in the signature log;

when transmission to the user is performed, updating information in the user information file, said information including the information of the users, the signature numbers specifying the generated signatures, and a transmission type

indicating transmission to the user; and

transmitting the generated user's signature log entry publication notice
to the users;

wherein said step of notifying the users of having published the publication
agency's signature log entry further comprises:

searching for a partner user by searching for users to whom
publication is to be notified from the user information file;

acquiring a transmission log range by searching for the log to be sent
from the user information file;

generating a publication agency's signature log entry publication notice
notifying of having published the publication agency's signature log entry;

generating a signature from the generated publication agency's
signature log entry publication notice and the signature log entries of the previous
signatures;

when the signature is generated, updating the generated signature in
the signature log;

when transmission to the user is performed, updating information to be
notified in the user information file, said information including said user information to
be notified, said signature number specifying said generated signature, and a
transmission type indicating transmission to the user; and

transmitting the generated publication agency's signature log entry
publication notice to the users;

wherein said step of searching for a partner user further comprises:

searching for the latest user's signature log entry and the previous
latest user's signature log entry from among the user's signature log entries included

in the user information file, and having a type indicative of having been published;

and

specifying a transmission partner user from information of the users
included in said partner user's signature log entries indicating the type of
transmission, from among user's signature log entries included between the
searched two user's signature log entries, and

wherein said step of acquiring the transmission log range further comprises
acquiring as the transmission log range sent to each partner user, signature log
entries included between a signature log entry specified by a signature number
included in the transmission partner user's signature log entry and a signature log
entry specified by a signature number included in the latest user's signature log
entry, from the user's signature log entries included between the searched two
user's signature log entries.

2. (canceled).

3. (currently amended): A method according to claim 1, wherein the step
of publishing the user's signature log entry ~~publishing step has a step of entries~~
further comprises:

acquiring a time-stamp to assure the publication date and time of the user's
signature log entry ~~as a time stamp acquiring step.~~

4-6. (canceled).

7. (currently amended): A method according to ~~claim 6~~ claim 1, wherein

the step of generating the publication notice of the user's signature log

entries~~generating step generates further comprises:~~

generating the publication notice based on the ~~basis of the a~~ message for notifying the users of having published, the published signature log entries, and the time-stamp indicative of the publication date and time.

8. (currently amended): A method according to ~~claim 6~~claim 1, wherein the step of generating a publication agency's signature log entry ~~the signature log updating step generates further comprises:~~

generating the signature log entries including signature algorithm identification information, signature numbers attached to the inherent signature log entries, hash values for the previous signature log entries to use in validating the chain, hash values for the signature-generated messages, and the generated signatures, and adds them to the signature log.

9. (canceled).

10. (currently amended): A method according to ~~claim 6~~claim 1, wherein the step of publishing the generated publication agency's signature log entry ~~publication agency's signature log entry publishing step publishes further comprises:~~

publishing part of the signature log updated based on the ~~basis of the~~ step of generating a publication notice of the user's signature log entries~~publication notice generating step.~~

11. (canceled).

12. (currently amended): A method according to ~~claim 11~~claim 1, wherein the step of generating a publication agency's signature log entry publication notice ~~generating step generates the further comprises:~~

generating publication notice based on the basis of the a message for notifying the user of having published the publication agency's signature log entry, the published signature log entry, and the signature log of a range to be transmitted.

13. (currently amended): A method according to ~~claim 11~~claim 1, wherein the step of updating information to be notified in the user information file ~~updating step adds further comprises:~~

adding, to the user information file, the information of the signature number attached to the publication agency's signature log entry, the code indicating that the corresponding publication agency's signature log entry was produced when the publication agency's log entry publication has been notified, the partner information indicative of the users to whom the publication notice is to be sent, and the information about a range of log to be transmitted.

14. (original): A method according to claim 1, wherein the user's side apparatus has the user information file that has recorded therein the information about the transmitting-side or receiving-side opponent in association with the user's signature log entries or publication agency's signature log entry transmitted or received by the user's side apparatus.